



City of Greensboro
Greenhouse Gas Calculations
January 12, 2009

Greenhouse Gas Emission Calculations

- International Council for Local Environmental Initiatives
- The Climate Registry –GHG Protocol
- U.S. Environmental Protection Agency
- Source Emission Calculation

Municipal Emission Sources

- Transportation
- Water and Wastewater Processing
- Waste Disposal
- Utilities





Vehicle Summaries

- Car (Normal Usage) – 247
- Car (Severe Usage) – 233
- Light Vehicles – 439
- Medium Vehicles – 176
- Heavy/Sanitation – 96
- Heavy Sewer – 6
- Heavy Other – 22
- Trailed Equipment – 97
- Off-Road/Construction/Tractors – 314

Alternative Fuel Vehicles



- Flex-fueled (E-85) – 95
- Bio-diesel (E-85) – 809

Source: Finance Department – Equipment Services

Vehicle Annual Mileage Summaries

- Car (Normal Usage) – 11,300 miles
- Car (Severe Usage) – 15,000 miles
- Light Vehicles – 12,950 miles
- Medium Vehicles – 10,800 miles
- Heavy/Sanitation – 11,300 miles
- Heavy/Sewer – 7,000 miles

Source: Finance Department Equipment Services Division

Vehicle Average Age Summaries

- Car (Normal Usage) – 4.7 years
- Car (Severe Usage) – 2.6 years
- Light Vehicles – 4.1 years
- Medium Vehicles – 6.8 years
- Heavy/Sanitation – 5.8 years
- Heavy Sewer – 7.4 years
- Trailed Equipment – 6.7 years
- Off-Road/Construction/Tractors – 7 years

Source: Finance Department Equipment Services Division

Fuel Usage (CO₂ Eq)

2007-2008

Unleaded – 43,651 gallons (383.34 MTeCo₂)

Diesel – 44,684 gallons (448.94 MTeCo₂)

2000-2001

Unleaded – 40,624 gallons (356.76 MTeCo₂)

Diesel – 35,144 gallons (353.09 MTeCo₂)

Water and Wastewater Processing



	TZ Osborne	North Buffalo	Total (Mgal)
1990	5327.75	5638.6	10966.35
1991	5234.02	5756.5	10990.52
1992	5531.73	5347.8	10879.53
1993	6118.33	5378.7	11497.03
1994	6194.01	5224.8	11418.81
1995	6152.91	4951.5	11104.41
1996	6609.27	5420.1	12029.37
1997	6311.94	5504.2	11816.14
1998	7003.03	4856.3	11859.33
1999	6928.49	4247.2	11175.69
2000	7116.7	4399.51	11516.21
2001	6592.59	4820.4	11412.99
2002	6790.44	5181.3	11971.74
2003	8424.63	4660.32	13084.95
2004	7329.54	4150.54	11480.08
2005	7036.29	3944.5	10980.79
2006	6499.34	4097.87	10597.21
2007	6613.67	4127.86	10741.53
2008	7877.42	2424.89	10302.31

Water Supply Data

2000	12,242,795,000
2001	10,843,548,000
2002	8,593,897,000
2003	10,108,554,000
2004	10,753,167,000
2005	9,889,659,000
2006	10,587,499,000
2007	9,910,037,000
2008	9,478,406,000

Waste Disposal Summaries



Phase I	Phase II	Phase III	Total Waste Volume	
2,995,161	3,500,618	2,210,721	8,706,500	Total
1,257,968	1,470,260	928,503	3,656,730	MTeCO2 (0.42)
453,764	530,340	334,922	1,319,026	MTeCO2 (0.15)

Annual tons since 1965

Utilities

- Piedmont Natural Gas
- Duke Energy

October 1, 2007 – September 30, 2008

142,140,811 kwh

$\text{CO}_2 = 1.05 \text{ lbs/kwh}$